WE CLAIM:

1. A method of inhibiting GVHD in a mammal requiring DLI, the method comprising

a) contacting the donor lymphocytes to be infused with an aqueous solution containing a therapeutically effective amount of LLME *ex vivo*;

b) eliminating selective cytotoxic T-cells;

c) infusing said donor lymphocytes into said mammal; and

d) inhibiting GVHD.

2. The method of **Claim 1**, wherein said mammal requires DLI following allogeneic T cell-depleted HSC.

3. The method of **Claim 1**, wherein said infusing of said donor lymphocytes into said mammal occurs after donor HSC engraftment.

4. The method of **Claim 1,** wherein said mammal is a human.

5. A method of inhibiting GVHD in a mammal requiring transplant of $CD34^+$ stem cells, said method comprising

a) separating the HSC to be infused into $CD34^+$ and $CD34^-$ fractions;

b) contacting said $CD34^-$ HSC fraction with an aqueous solution containing a therapeutically effective amount of LLME *ex vivo*;

c) eliminating selective cytotoxic T-cells in the $CD34^-$ HSC fraction

d) co-administering a therapeutically effective amount of said LLME-treated $CD34^-$ HSC fraction with said $CD34^+$ HSC fraction; and

e) inhibiting GVHD.